ONR Prob/Stats Newsletter
2nd Quarter – 1999

Topics:
1. Prob/Stats Web Site Updated
2. Mine Detection Session at Joint Statistical Meetings
3. Command and Control Book Chapter
4. Nonlinear Filtering Technology Transfer
5. Future Naval Capabilities
6. S & T Resources on the Web

1. Prob/Stats Web Site

The updated web site for the Probability and Statistics Program should be posted within the week. The URL for the site is http://www.onr.navy.mil/sci_tech/information/onrpgabm and click on Program Links. It contains a brief description of the Prob/Stats research efforts and links to most of the principal investigators. Any others who want to include links to their sites or who would be willing to link to the ONR Prob/Stats site, please send an email to Wendy_Martinez@onr.navy.mil or call 703-696-4320.

2. Mine Detection Conference Session

Results from ONR-funded research in mine detection will be presented at the Joint Statistical Meetings.

Joint Statistical Meetings (JSM) - Baltimore - August 8 – 12, 1999

http://www.amstat.org/meetings/jsm/1999/index.html

Optimizing mine classification performance
Carey Priebe, Johns Hopkins University
Statistical Methods in DoD Minefield Detection Systems
Robert Muise, NSWCDD
A morphological detector for locating mines and minelike objects in heavily cluttered multispectral aerial images,
John Goutsias, Johns Hopkins University
Detecting minefields and other features in spatial point processes via simulation-based methods.
Daniel Walsh and Adrian E. Raftery, University of Washington

3. C2 Work – Noel Cressie

Prof. Noel Cressie is now at Ohio State and is setting up a research group addressing problems in command and control. He co-authored a paper entitled "Multi-scale Graphical Models in Space: Applications to Command and Control" that has been accepted as a chapter in a Springer book on spatial statistics.

4. Nonlinear Tracking – Boris Rosovskii

Boris Rozovskii and Alexander Tartakovksy, Center for Applied Mathematical Science, University of Southern California, have been working on Bayesian and sequential methods in nonlinear filtering and target tracking. They developed track-before-detect and adaptive detection algorithms that will be transitioned to SPAWAR Systems Center in San Diego and to Raytheon Co., Signal Processing Lab in El Segundo.

5. Future Naval Capabilities

In FY02, the Navy is instituting Future Naval Capabilities (FNC's) for exploratory and advanced research. The operational fleet specified desired future capabilities that were then grouped into 12 categories called FNC's. The basic research conducted under the Prob/Stats Program can support the enabling capabilities for some of the FNC's. The categories of interest to the Prob/Stats Program are:

Information Distribution: information management and information warfare

Decision Support Systems: Common Operational/Tactical Picture, distributed collaboration, data integration, decision aids and assessing probability of risk for courses of action.

Mine Countermeasure: target detection and classification

Time Critical Strike: data integration, target recognition, combat identification, and decision aids

The technical leads for these FNC's will be contacted for possible transitions from Prob/Stats research. Please contact me if you have something that will support these capabilities.

6. S & T Resources on the Web

Director Defense Research & Engineering (DDR&E): This is an entry point to the Deputy Under Secretary of Defense – S&T (http://www.dtic.mil/dusdst/), Defense Research, Development, Test and Evaluation (RDT&E), and other information on defense research. http://www.dtic.mil/ddre/

Research & Development, Descriptive Summaries (RDDS): This site provides an online repository of summary information on DoD programs . http://www.dtic.mil/descriptivesum/

Community of Science: This contains information on funding opportunities and other related funding information. http://www.cos.com/